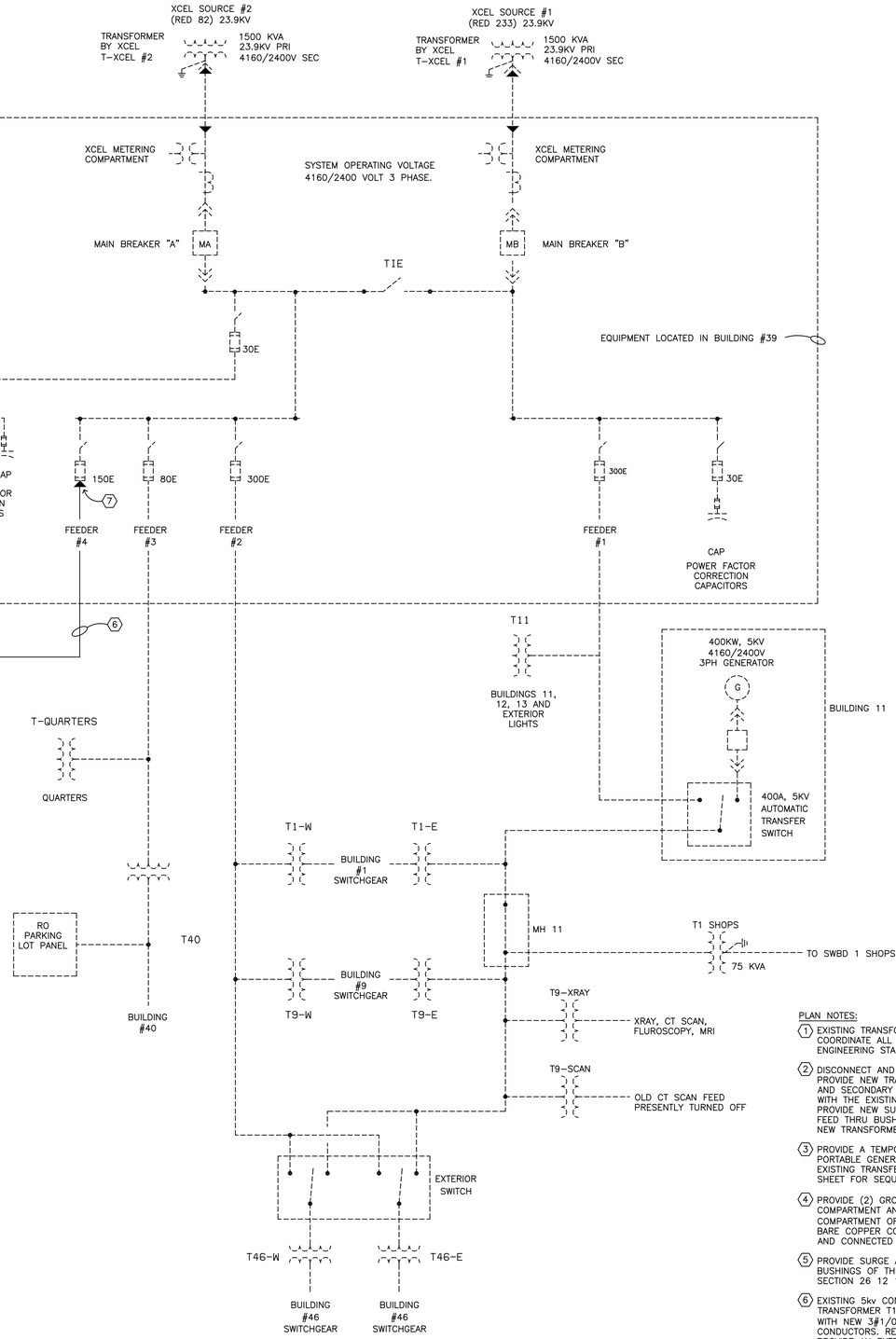
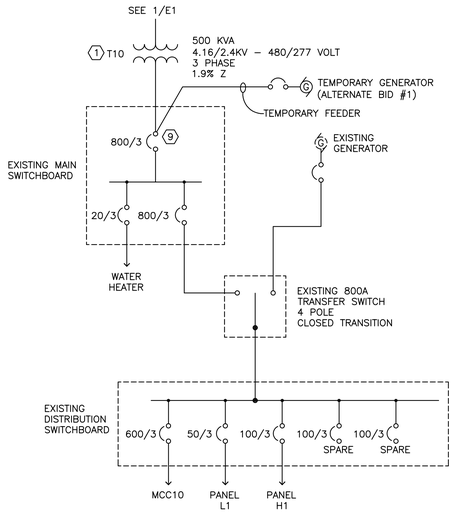


2 E1 4.16KV ONE LINE DIAGRAM
NO SCALE



3 E1 BUILDING 10 - EXISTING ONE LINE DIAGRAM
NO SCALE

PLAN NOTES:

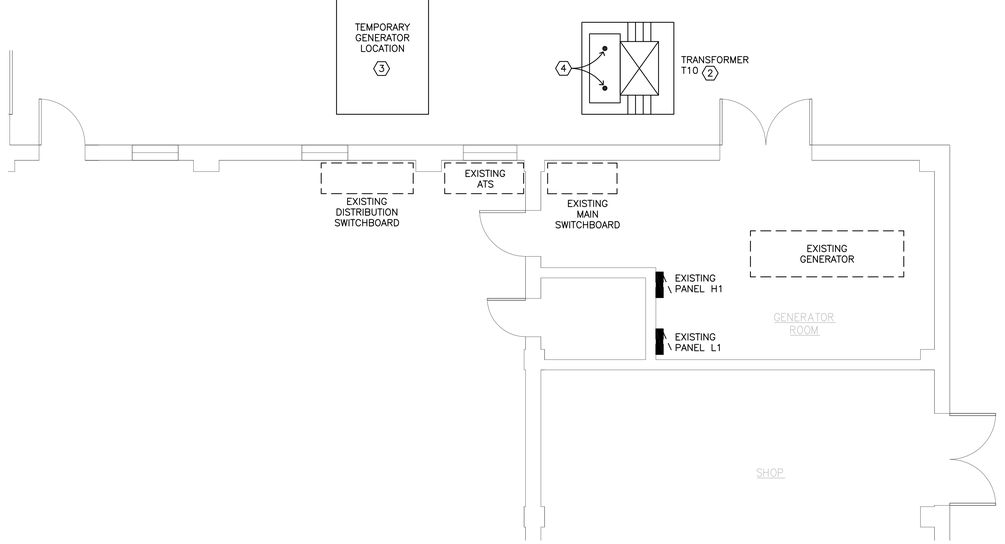
1. EXISTING TRANSFORMER TO BE REMOVED AND REPLACED. COORDINATE ALL 5KV SWITCHING OPERATIONS WITH VA ENGINEERING STAFF.
2. DISCONNECT AND REMOVE EXISTING TRANSFORMER AND PROVIDE NEW TRANSFORMER T10. EXISTING PRIMARY AND SECONDARY CONDUCTORS TO BE REUSED ALONG WITH THE EXISTING PRIMARY TERMINATION ELBOWS. PROVIDE NEW SURGE ARRESTERS ON TRANSFORMER FEED THRU BUSHINGS. PROVIDE NEW LABELS ON THE NEW TRANSFORMER TO MATCH ALL EXISTING LABELS.
3. PROVIDE A TEMPORARY CONNECTION FROM THE PORTABLE GENERATOR TO THE UTILITY SIDE OF THE EXISTING TRANSFER SWITCH. SEE WORK PLAN ON THIS SHEET FOR SEQUENCING.
4. PROVIDE (2) GROUND RODS, ONE WITHIN THE PRIMARY COMPARTMENT AND ONE WITHIN THE SECONDARY COMPARTMENT OF THE TRANSFORMER. PROVIDE #3/0 BARE COPPER CONDUCTOR BETWEEN THE GROUND RODS AND CONNECTED TO THE TRANSFORMER NEUTRAL BAR.
5. PROVIDE SURGE ARRESTORS ON THE FEED THRU BUSHINGS OF THE NEW TRANSFORMERS. SEE SECTION 26 12 19.
6. EXISTING 5kv CONDUCTORS FROM BUILDING 39 TO TRANSFORMER T10 TO BE REMOVED AND REPLACED WITH NEW 3#1/0 5kv + #1/0 NEUTRAL, COPPER CONDUCTORS. RETERMINATE CABLES AT BOTH ENDS. PROVIDE AN EXTRA LOOP OF CABLE IN EACH PULL BOX AND SLACK IN THE TRANSFORMER COMPARTMENT FOR FUTURE USE.
7. PROVIDE NEW STRESS CONE, EPDM TYPE MODULAR TERMINATORS.
8. PROVIDE NEW ELBOW TYPE TERMINATORS, 200 AMP LOADBREAK STYLE.
9. DISCONNECT EXISTING FEEDERS FROM TRANSFORMER T10 IN ORDER TO CONNECT TEMPORARY FEEDERS FROM THE TEMPORARY GENERATOR. RECONNECT TRANSFORMER FEEDERS AFTER NEW TRANSFORMER IS INSTALLED.

ELECTRICAL SYMBOLS LEGEND

SYMBOLS	DESCRIPTION	MOUNTING HEIGHT
	LIGHTING AND APPLIANCE PANELBOARD	
1	MOTOR (NUMBER REFERS TO MOTOR AND EQUIPMENT SCHEDULE SEE SCHEDULE FOR WIRING AND CONTROLLER REQUIREMENTS)	
	NON-FUSED DISCONNECT	
VFD	VARIABLE FREQUENCY CONTROLLER	
WJB	WALL JUNCTION BOX	18 INCHES
	DASHED LINES INDICATE EXISTING FIXTURES, DEVICES, OR EQUIPMENT	
	CONDUIT CONCEALED IN WALL OR CEILING, QUANTITY OF CONDUCTORS NOT SHOWN, PROVIDE AS REQUIRED FOR DEVICE/CIRCUIT NUMBERS SHOWN.	
1	NOTE IDENTIFICATION	
L1-2,4,6 #10	HOME RUN TO PANELBOARD, QUANTITY OF CONDUCTORS REQUIRED NOT INDICATED, PROVIDE QUANTITY AS REQUIRED FOR CIRCUIT NUMBERS SHOWN, SWITCHING ARRANGEMENT, OR NUMBER OF HOME RUNS SHOWN. '#10' INDICATES WIRE SIZE, NO NUMBERS INDICATES #12, 3/4 INCH CONDUIT MINIMUM.	

PROPOSED PROJECT WORK PLAN

1. THE REPLACEMENT TRANSFORMER, CONDUCTORS AND ALL OTHER REQUIRED PARTS WILL NEED TO BE ORDERED AND ON SITE PRIOR TO ANY WORK BEGINNING.
2. THE NEW TRANSFORMER SHALL FIT ON THE EXISTING PAD. NEW TRANSFORMER DIMENSIONS SHALL ACCOMMODATE THE EXISTING CONCRETE PAD.
3. A PORTABLE GENERATOR WILL BE REQUIRED AS THE PRIMARY POWER SOURCE DURING REPLACEMENT OF THE TRANSFORMER AND 5kv CABLES. THE EXISTING BOILER PLANT GENERATOR WILL ONLY BE THE EMERGENCY BACKUP SOURCE DURING THE SWITCHOVER.
4. THE EXISTING EMERGENCY GENERATOR WILL BE OPERATED WHILE THE EXISTING TRANSFORMER IS DISCONNECTED AND THE PORTABLE GENERATOR IS CONNECTED TO THE BUILDING. THE PORTABLE UNIT WILL RUN DURING THE OUTAGE PERIOD WHICH WILL BE A MAXIMUM OF ONE 12 HOUR DAY. WORK WILL LIKELY BE REQUIRED TO BE COMPLETED ON A WEEKEND.
5. AFTER THE PORTABLE GENERATOR IS ON LINE, THE EXISTING TRANSFORMER AND CONDUCTORS WILL BE REMOVED, THE NEW CABLES INSTALLED AND THE NEW TRANSFORMER SET AND RECONNECTED.
6. ONCE THE NEW TRANSFORMER IS SET AND RECONNECTED AND PROPER VOLTAGE IS CHECKED, THE EXISTING EMERGENCY GENERATOR WILL BE BROUGHT ON LINE WHILE THE PORTABLE GENERATOR IS DISCONNECTED AND THE NEW TRANSFORMER CONNECTED.
7. FINALLY, THE NEW TRANSFORMER WILL BE BROUGHT ON LINE AND THE SYSTEM WILL BE BACK TO NORMAL.
8. THE OUTAGES DURING THE ENTIRE SWITCHOVER TIME PERIOD SHALL BE SHORT, 10 SECONDS OR LESS.
9. THE SWITCHOVER WORK WILL NEED TO BE COMPLETED IN THE SUMMER OR EARLY FALL WHEN THE HEATING PLANT STEAM DEMAND IS LOWER.
10. INCLUDE THE TEMPORARY GENERATOR AND ASSOCIATED CONNECTION IN DEDUCT ALTERNATE BID #1. IF THE ALTERNATE IS ACCEPTED, THE EXISTING GENERATOR SHALL BE USED AS THE BACKUP SOURCE DURING THE TRANSFORMER SWITCH OVER.



1 E1 FIRST FLOOR PLAN - ELECTRICAL REMODELING
0' 2' 4' 8'

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

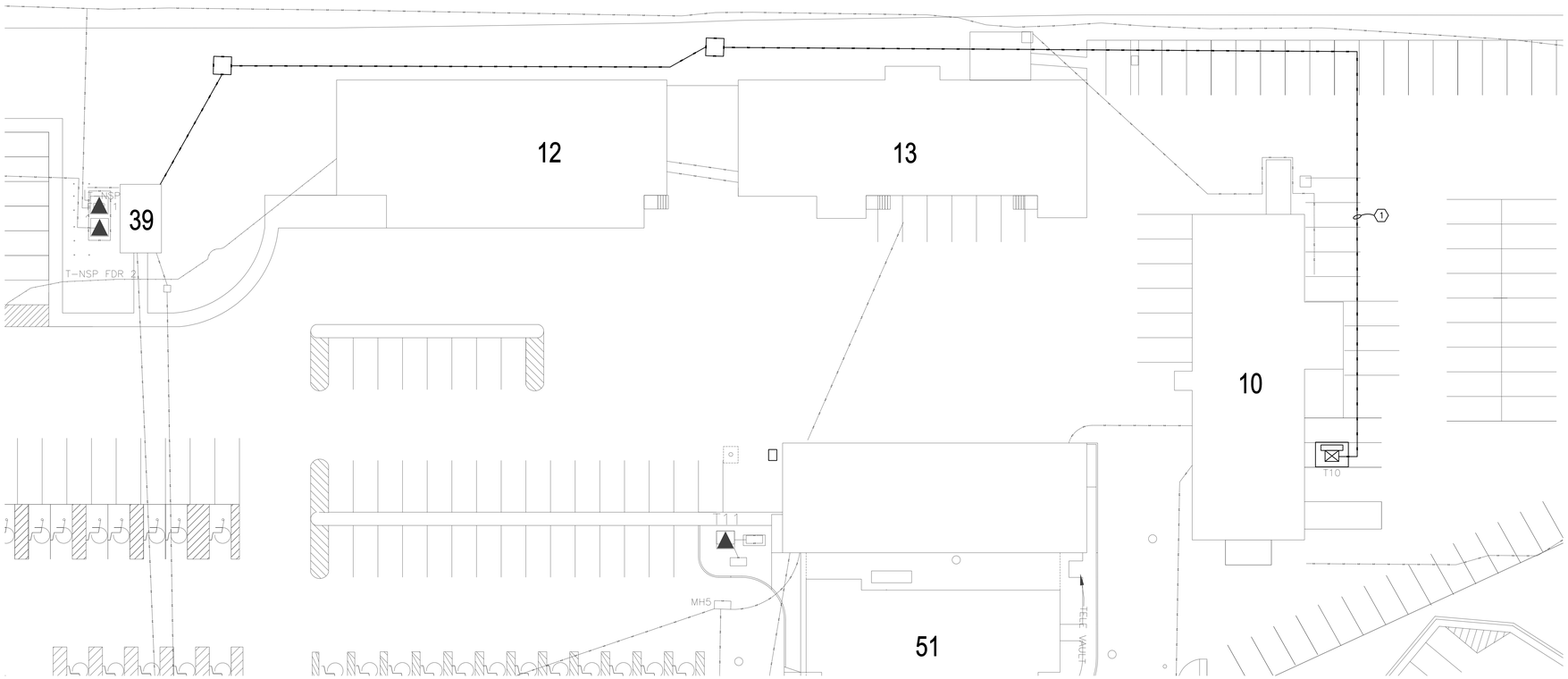
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

MECHANICAL * ELECTRICAL * CIVIL
503 7th St N, SUITE 200
FARGO, ND 58102
PHONE: 701.478.6336
FAX: 701.478.6340

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title	BUILDING 10 ELECTRICAL - ELECTRICAL DETAILS
Project Title	FARGO VA HEALTH CARE SYSTEM REPLACE TRANSFORMER, BUILDING 10
Date	February 12, 2013
Scale	AS NOTED
VA Project No.	437-13-109
Contract No.	VA263-P-1217 VA263-C-
Designed By	MB
Checked By	MB
Drawn By	TP
Drawing No.	E1
Building No.	10
AutoCAD File Name	13-003 E1.DWG
Location	FARGO VA HEALTH CARE SYSTEM FARGO, ND
	Dwg. 2 of 3

Department of Veterans Affairs



PLAN NOTES:

(1) ROUTE FOR THE EXISTING 5kv FEEDER FROM THE BUILDING 10 TRANSFORMER TO BUILDING 39. PROVIDE NEW CONDUCTORS IN THE EXISTING 4 INCH DUCT.

1 / E2 SITE PLAN - ELECTRICAL

0' 10' 20' 40'

Revisions	Date

Dept. of Veterans Affairs
Medical Center
2101 Elm Street North
Fargo, ND 58102

IMAGE GROUP
IMAGE GROUP INC.
403 CENTER AVENUE, SUITE 300
MOORHEAD, MN 56560

MBN ENGINEERING
MECHANICAL * ELECTRICAL * CIVIL
503 7th St N, SUITE 200
FARGO, ND 58102
PHONE: 701.478.6336
FAX: 701.478.6340

IMAGE GROUP INC., Architecture & Interiors
MBN ENGINEERING, Electrical Engineers

Drawing Title	SITE PLAN - ELECTRICAL
Project Title	FARGO VA HEALTH CARE SYSTEM REPLACE TRANSFORMER, BUILDING 10
Date	February 12, 2013
Scale	AS NOTED
VA Project No.	437-13-109
Contract No.	VA263-P-1217 VA263-C-
Designed By	MB
Checked By	MB
Drawn By	TP
Drawing No.	E2
Dwg. 3 of 3	
Building No.	10
AutoCAD File Name	13-003 E2.DWG
Location	FARGO VA HEALTH CARE SYSTEM FARGO, ND

Department of Veterans Affairs